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E-Energy

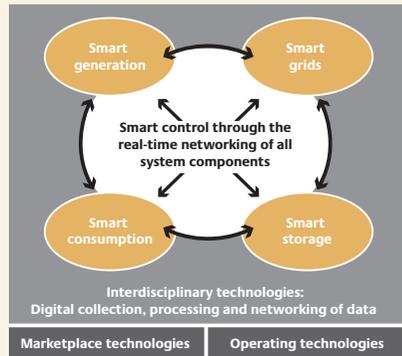
Paving the Way towards an
Internet of Energy

www.e-energy.de

E-Energy: ICT-based energy system of the future

A development initiative by the German Federal Ministry of Economics and Technology (BMWi), implemented in collaboration with the German Federal Environment Ministry (BMU)

The growing demand for energy, the scarcity of raw materials and climate change are raising new problems which today's electricity systems cannot cope with. New integral system solutions are called for, in which information and communication technologies (ICTs) will play a key role.



Optimum integration of all value-added processes with the aid of ICTs

With the aim of stepping up and intensifying the necessary R&D work, the BMWi has initiated the E-Energy technology programme, which will run for a 4-year term and receive an overall budget of some € 140 million. Example solutions for an energy internet will be set up in six model regions for the first time. It is hoped that the solutions will quickly have a sweeping bandwagon effect and trigger follow-up investments. The aim here is to create a smart electricity system, which will extensively control itself and in which all energy-sector processes are optimally adapted to one another.

E-Energy is a key tool for the modernisation of the electricity sector

E-Energy is an integrated economic and innovative energy and climate programme.

Its objectives are:

- ▶ **To contribute to solving energy and climate problems** through the transition to smart generation – smart grid – smart consumption – smart storage
- ▶ **To create new jobs and open up new markets** through the digital organisation of technical operating and business processes
- ▶ **To speed innovative progress** by creating multi-disciplinary structures
- ▶ **E-Energy constitutes a paradigm shift in the electricity industry**
With future electricity systems, which will be significantly more focused on weather-dependent energy sources such as solar and wind power than today's systems, it will not be possible to uphold the currently prevailing unidirectional paradigm of "consumer-oriented electricity generation". This is why ICT solutions for a bidirectional system are to be created in the E-Energy model regions. In these solutions, "generation-oriented consumption" will be implemented for the first time alongside "consumer-oriented generation" in practical application.

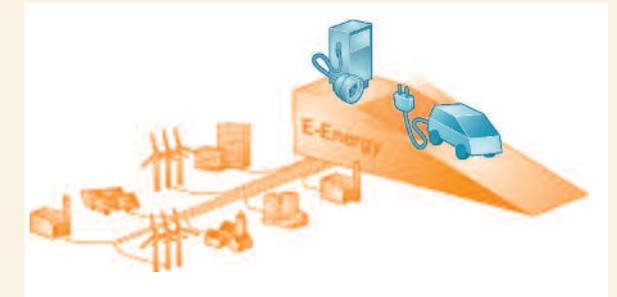


E-Energy combines all energy-sector processes in a single intelligent real time-interaction system.

E-Energy is a launch pad for electromobility

With its new ICT solutions, E-Energy lays the basis for the intelligent integration of electric vehicles in the overall power supply systems of the future.

With electric vehicles, the precise time at which the battery is charged is irrelevant. The important thing is that it has been charged by the time the vehicle is next used. Electric cars can register their current position, how much energy the battery still has and at what time it must be charged to a specific level, via the energy internet. And if the car is not in use, the battery can be used to buffer energy to compensate for the irregular availability of renewable energies.



E-Energy is the launch pad for electromobility in Germany

E-Energy is a key element in the implementation of the national electromobility development plan. It paves the way for the spread of electromobility across Germany. With E-Energy as a "launch pad" and with "IKT for Electromobility" as a new focus for funding, the BMWi is supporting the necessary application-oriented research.

→ "The efficiency of power grids in Germany is to be enhanced through the use of modern information technologies and the integration of electric vehicles" (Key point, National Electromobility Development Plan)